

WHAT IS CLAIMED IS:

1. An information processing device, comprising:  
an instruction execution block for executing a first  
instruction set as a specific instruction; and  
5 an instruction translator for translating an  
instruction included in a first instruction group of a  
second instruction set to said first instruction set to be  
supplied to said instruction execution block,  
wherein said information processing device, when  
10 receiving an instruction included in a second instruction  
group of the second instruction set, which is not translated  
by said instruction translator, translates the instruction  
included in the second instruction group to the first  
instruction set with use of software so as to be executed  
15 by said instruction execution block, and  
wherein said instruction translator has a first  
storage area for storing an information to be able to  
redefine whether each of the instruction of the second  
instruction set is included in the first instruction group  
20 or the second instruction group.
2. The information processing device according to  
claim 1,  
wherein the instructions of the second instruction set  
is classified into a plurality of instruction categories,  
25 and

wherein the first storage area stores the information according to each of the plurality of the instruction categories.

3. The information processing device according to  
5 claim 2,

wherein each of said plurality of instruction categories includes any one of a local variable access instruction group, an array access instruction group, a 32-bit operation instruction group, a 64-bit operation  
10 instruction group, a floating decimal point instruction group, a stack handling instruction group, a subroutine jump/return instruction group, and a flow control instruction group.

4. The information processing device according to  
15 claim 1,

wherein said instruction translator, when receiving the instruction of the second instruction set, refers to the information stored in the first storage area to change the inputted instruction to a first instruction format one if  
20 it is included in the first instruction group or to let the software to execute the inputted instruction if it is included in the second instruction group.

5. The information processing device according to claim 1,

wherein said software is described with said first instruction set.

6. The information processing device according to claim 1,

5        wherein said instruction translator includes:

         a controller for storing an operation code defined in a first version of the software and controlling its processing and a second storage area for changing a relationship between the operation code stored in said  
10       controller and its processing when the software version is upgraded.

7. The information processing device according to claim 6,

         wherein said instruction translator includes a third  
15       storage area for storing information used to dispose an array or field defined in the second instruction set in a memory so as to be redefined.

8. The information processing device according to claim 7,

20       wherein the third storage area includes:

         a first area for storing an offset value for between the start address of said memory and the start entry of an array when said array is defined in the second instruction set and disposed in said memory;

a second area for storing an offset value for between the start address of said memory and a field for storing a length of said array when said array is to be disposed in said memory; and

5 a third area for storing an offset value for between the start address of said memory and the start entry of said field when a field defined in said second instruction set is disposed in said memory.

9. An information processing device, comprising:

10 an instruction execution block for executing a first instruction set as a specific instruction; and

an instruction translator for translating an instruction included in a first instruction group of a second instruction set to said first instruction set to be  
15 supplied to said instruction execution block,

wherein said information processing device, when receiving an instruction included in a second instruction group of said second instruction set, which is not translated by said instruction translator, translates said  
20 received instruction with use of software to said first instruction set so as to be executed by said instruction execution block, and

wherein said instruction translator includes:

a controller for storing an operation code defined by  
25 the first version of said software and its processing; and

a second storage area for changing a relationship between said operation code stored in said controller and its processing when the version of the software is upgraded.

10. The information processing device according to  
5 claim 9,

wherein said controller also stores an operation code defined in the second version of the software and its processing in addition to the relationship between the operation code defined by the first version of the software  
10 program and its processing, and

wherein said second storage area includes an area for specifying a relationship between said controller and the first or second version so as to be redefined.

11. The information processing device according to  
15 claim 9,

wherein said controller stores a relationship between an operation code defined in the first version of the software and its processing,

wherein said second storage area includes:

20 a first area for specifying that part of the relationship between an operation code stored in said controller and its processing is invalidated so as to be redefined; and

a second area for storing a new operation code for the processing invalidated by said first area so as to be redefined.

12. The information processing device according to  
5 claim 9,

wherein said second instruction set is the Java  
bytecode,

wherein said software is a software virtual machine  
that executes said Java bytecode in said information  
10 processing device, and

wherein said second storage area can reset a  
relationship between an operation code of an extended  
bytecode of said Java bytecode and its processing content.

13. An information processing device, comprising:

15 an instruction execution block for executing a  
specific instruction; and

an instruction translator for translating an  
instruction included in a first instruction group of the  
Java bytecode to said specific instruction to be supplied  
20 to said instruction execution block,

wherein said information processing device, when  
receiving an instruction included in a second instruction  
group of said Java bytecode, which is not translated by said  
instruction translator, translates said received  
25 instruction to the specific instruction with use of a

software virtual machine so as to be executed by said instruction execution block, and

wherein said instruction translator includes:

a first storage area for redefining classification of  
5 said Java bytecode into said first instruction group and said second instruction group;

a second storage area for redefining a relationship between an operation code of said Java bytecode and its processing content; and

10 a third storage area for redefining information used to dispose an array or field defined in said Java bytecode in a memory.

14. The information processing device according to claim 13,

15 wherein said information processing device writes a predetermined value in said first to third storage areas respectively, thereby coping with to the version upgrading of said software virtual machine.

15. The information processing device according to  
20 claim 14,

wherein said Java bytecode is classified into a plurality of instruction categories, and

wherein the first storage area stores the information according to each of the plurality of the instruction  
25 categories.